

ABSTRACT

An apparatus and system are provided for delivering communication services such as video, data and telephony services to individual residential units.

According to one embodiment, an optical network terminal (ONT) for providing
5 communication services to a single residential unit comprises a passive optical network interface (PI) circuit, a residential service interface (RSI) circuit, and a power unit. The PI circuit receives optical signals from an optical fiber and transmits optical signals onto the optical fiber. The PI circuit is adapted to convert received optical signals containing voice information to electrical voice ATM cells, received optical signals containing data
10 information to electrical data ATM cells, and received optical signals containing video signals to electrical video signals. The PI circuit is also adapted to convert electrical voice ATM cells and electrical data ATM cells to optical signals for transmission over the optical fiber;

The RSI circuit that is adapted to convert the electrical voice ATM cells to a
15 telephony format suitable for use at the residential unit and the electrical data ATM cells to a network format suitable for use at the residential unit. The RSI circuit is also adapted to convert telephony format information received from the residential unit to voice ATM cells and network format information received from the residential unit to data ATM cells.

20 The power unit provides power for use in the PI circuit and the RSI circuit. The power unit includes an AC/DC converter for converting ac power received from the residential unit to dc power for use in the ONT and backup batteries for providing power when there is an interruption of the ac power.